

Laucks 81 Testing Laboratories, Inc.

940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

FILE

Certificate

Chemistry, Microbiology, and Technical Services

CLIENT: Alaskan Copper Works
P.O. Box 3546
Seattle, WA 98124
ATTN: Jim Brown

LABORATORY NO. 16831

DATE: Jun. 28, 1989

PO #M10225

REPORT ON: MATERIAL

SAMPLE

IDENTIFICATION: One unknown white flake material was submitted June 1, 1989 for identification. Sample was designated:

#6-1-3200-M10225

The sample was examined qualitatively for chloride, sulfate, and carbonate, quantitatively for pH, and a semi-quantitative spectrographic analysis was performed on the as-received sample with results as follows:

Chloride - present
Sulfate - negative
Carbonate - strongly present
pH (1:2 DIW Slurry), glass electrode @ 25°C - 13.3

	%
Sodium	33.
Silicon	11.
Magnesium	0.00098
Iron	0.016
Silver	0.00066
Titanium	0.0098
Aluminum	0.0071
Chromium	0.00046
Calcium	0.00036
Copper	0.00052
Manganese	TR (<0.0005)
Other Elements	nil



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AKC-0015194



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Alaskan Copper Works

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Comments:

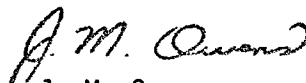
The presence of sodium and the extremely high pH indicates the presence of sodium hydroxide. The presence of carbonates indicates the presence of sodium carbonate. Thus, the major constituents of the white scale appear to be silicon, sodium hydroxide, and sodium carbonate.

Key

< = less than
TR = Trace

Respectfully submitted,

Laucks Testing Laboratories, Inc.


J. M. Owens

JMO:veg



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